DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-015757
Date Inspected: 20-Jul-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 1000
OSM Departure Time: 1830
Location: Job Site

CWI Name: Bonifacio Daquinag and Steven Mc Connell

CWI Present:	☑ Yes	☐ No					
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girder

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

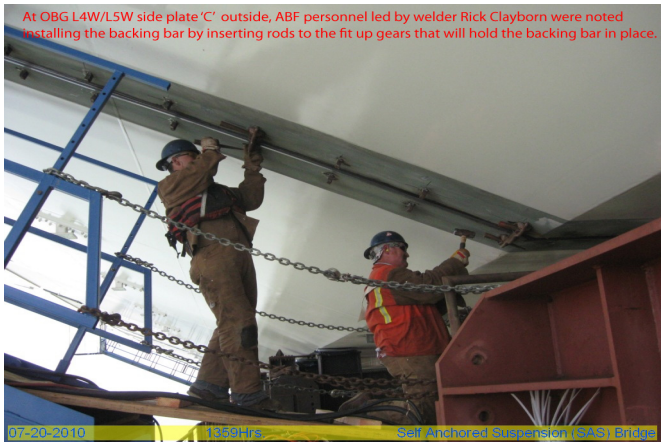
At OBG L5E/L6E side plate ‘C’ (3110mm to 7478mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove (splice) welding cover pass on the splice butt joint. The welder was observed performing automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16” diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042B-1. The joint being welded had a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System located at the opposite side of the plate prior/during welding. ABF Quality Control (QC) Bonifacio Daquinag was noted monitoring the welding parameters of the welder. During the shift, cover pass welding of the splice joint at location mentioned above was completed and the welder has moved to the higher elevation at 0mm to 3110mm. The welder has put the root pass manually then shifted to the automatic welding with the succeeding fill passes.

At OBG L3W/L4W bottom plate ‘D’ outside, ABF QC Steven Mc Connell was observed performing Magnetic Particle Testing (MT) on the gouged and ground groove surface of the backing bar removal. The ground surface was noted smooth and has a 35mm wide and 10mm deep profile. The QC was noted using a Parker Contour yoke with red magnetic powder as detecting media. During the MT of the ground surface, QC Steven Mc Connell has found no significant indications. QA also performed random MT on the ground surface and got same result. After

the completion of MT, QA noted ABF welders Rory Hogan and Jeremy Dolman prepared their welding equipment and installed the blankets for the Miller Proheat 35 Induction Heating System.

Before the end of the shift, QA randomly observed ABF/JV qualified welders Rory Hogan (ID #3186) perform CJP groove (splice) back welding fill pass on Orthotropic Box Girder (OBG) L3W/L4W bottom plate 'D1' outside. The welder was observed back welding in the 4G (overhead) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3110-4. The welder was using a track mounted welder holder assembly that is remotely controlled. The joint being welded has the backing bar gouged using the Esab Plasma Arc machine and was ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated and maintained to greater than 150 degree Fahrenheit using Miller Proheat 35 Induction Heating System located at the other side of the plate prior/during welding. The vicinity was also properly protected from wind and other climatic changes. During welding, ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder.

At OBG L4W/L5W side plate 'C' outside, QA randomly observed ABF welder Rick Clayborn perform tack welding of 42 pieces of fit up gear/temporary attachment to be used as an aid in the installation of the backing bar. The welder was using Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode. During the shift, the welder has completed the welding of the fit up gears/temporary attachment and installed the backing bar from the outside. The welder and QC have moved inside the OBG and started measuring the fit up alignment.



Summary of Conversations:

With the completion of the installation of the backing bar from the outside of OBG L4W/L5W side plate 'C', the ABF QC William Sherwood was noted inside the OBG measuring the alignment of the splice butt joint. The welder was also noted adjusting the alignment by hammering the rods inserted to the fitting gears from the outside. According to QC, although his measurement was still in progress, he found the partially measured fit up alignment of the splice deemed within the contract requirements.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Mohammad Fatemi (916) 227-5298, who represents the Office of Structural Materials for your project.

WELDING INSPECTION REPORT

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Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer